# Attitude theory and behavioral costs

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# ATTITUDE THEORY AND BEHAVIORAL COSTS *

Theo M.M. VERHALLEN
*Tilburg University, The Netherlands*

Rik G.M. PIETERS
*Leyden University, The Netherlands, and Brabant University Cooperative Institute, Tilburg, The Netherlands*

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The Fishbein and Ajzen reasoned action model is briefly introduced and some theoretical aspects of the model are discussed Based on a critical analysis of the act and behavioral category concepts in their model an alternative concept 'behavioral field', is introduced. A behavioral field is defined as 'the total of acts that are perceived by the acting individual as leading to a common goal or valued state' Then a distinction is made between goal acts and instrumental acts. Goal acts lead to goal attainment. Instrumental acts will bring the individual into the direction of his goal It is argued that for acts that are predominantly instrumental other substitutable acts are available. The choice between substitutable instrumental acts is governed by both expected outcomes and the behavioral costs attached to the acts Behavioral costs are defined as the behavioral price relative to the behavioral budget The behavioral price is determined by the time, psychic and physical task demand The behavioral budget is a function of the goal importance of the behavioral field Some further aspects of behavioral costs are then discussed Several arguments to treat costs and outcomes separately in the explanation of behavior, are elaborated Then some implications from the behavioral cost concept are drawn for attitude theory Finally the entangling of costs and value is briefly discussed

## 1. Introduction

Since the often cited finding of LaPiere (1934), that restaurant owners with a negative attitude toward receving Chinese quests nevertheless did

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Mailing address Th.M.M Verhallen, Katholieke Hogeschool, P 711, Postbus 90153, 5000 LE Tilburg, The Netherlands

receive them, there has been an abundance of studies on the relationship between attitudes and behavior (See e.g., Heider 1946; DeFleur and Westie 1963; Fishbein and Ajzen 1972; Gross and Niman 1975; Silberer 1982). The Fishbein and Ajzen model on reasoned action can be seen as a culmination of this development. The model has stimulated a lot of research efforts. In the present article a number of issues with regard to the Fishbein and Ajzen model will be discussed. From an analysis of the content of acts versus behavior, the concept of behavioral costs is introduced and some consequences for attitude research are delineated.

## 2. The Fishbein and Ajzen model: some theoretical issues

Fishbein and Ajzen's model has the purpose of contributing to the understanding and prediction of behavior. It can be represented in the form of three formulas (Fishbein and Ajzen 1975):

$$B \sim BI = w_1(A_{act}) + w_2(SN) \tag{1}$$

$$A_{act} = \sum_{i=1}^{n} (b_i \times e_i) \tag{2}$$

$$SN = \sum_{j=1}^{m} (nb_j \times mc_j) \tag{3}$$

In the model it is supposed that the intention ($BI$) to perform a certain behavior ($B$) is a function of the weighted ($w_1$) attitude (Fishbein and Ajzen define attitude as affect) toward performing a behavior ($A_{act}$) and the weighted ($w_2$) Subjective Norm ($SN$) (formula 1). A behavioral intention is seen as consisting of a personal and a social component.

The attitude toward a behavior is a function of the expected consequences or outcomes of behavior (beliefs $= b_i$) and the evaluations of these expected consequences or outcomes ($e_i$) (formula 2).

The Subjective Norm in the model is a function of social norms to perform a behavior ($nb_j$) and the motivation to comply with these norms ($mc_j$) (formula 3). If no unanticipated circumstances occur, a behavioral intention will be converted into corresponding behavior.

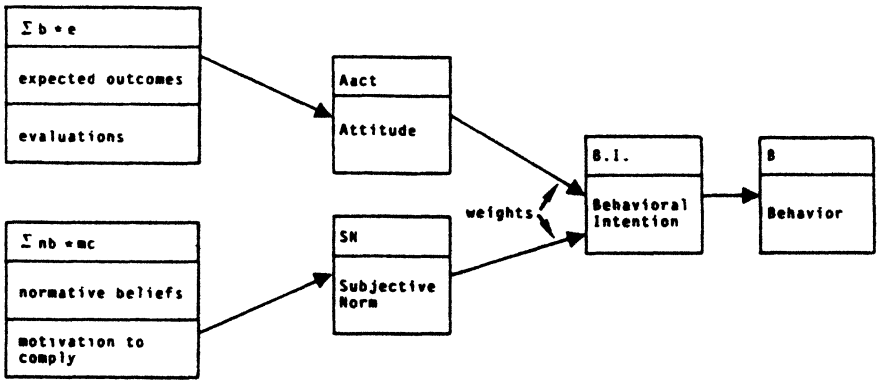


Fig. 1. The Ajzen and Fishbein model of reasoned action.

In the manifold applications of the model convincing evidence is provided of the predictive and explanatory power of the model (see for a review Ajzen and Fishbein 1980). Several issues with regard to the application of the model have been raised: problems with regard to theoretical assumptions underlying the model, operationalization problems with concepts in the model and a number of analysis problems. For a further treatment of the latter two types of problems we refer to Wilkie and Pessemier (1973) and Ryan and Bonfield (1975). The topic of the reliability and validity of attitude scales has not been addressed very often in the Ajzen and Fishbein research tradition. For a discussion on this point see e.g., Bettman et al. (1975); Bagozzi (1981b); Burnkrant and Page (1982). We will concern ourselves here with some theoretical issues.

### *2.1. Attitude as antecedent of behavior*

It is assumed that the attitude toward an act precedes the performance of an act. For non-intentional behavior stochastic models have been proposed (Bass 1974). However, even for the object of the Fishbein model, intentional behavior, the necessity of preceding attitudes is doubted (Bettman 1979: 210; Lastovicka and Bonfield 1982). Others doubt the causality, (e.g., Lutz 1977). Sarver (1983) discusses the causal properties of the Ajzen and Fishbein model. He argues that a 'context of opportunity' is a necessary requirement for an attitude and its

corresponding behavioral intention to be expressed in overt behavior. If a context of opportunity is present the causal sequence is 'on', a term used by Sarver, a positive attitude will be expressed in overt behavior. Without a context of opportunity the causal sequence is blocked ('off'). Although we agree with Sarver that the Ajzen and Fishbein model needs a concept that can take the effect of changes in situational circumstances into account, we object, among other things, to the dichotomous character of the proposed solution (see Verhallen and Pieters 1984). A behavioral cost concept, as will be elaborated in this article, is offered as a better alternative.

The order of attitudes and behavior has also been discussed. Bem (1967, 1972) proposed the reverse order: attitudes following behavior. Fishbein and Ajzen (1975) state that past behavior can only influence future behavior via the beliefs or the motivation to comply. Bentler and Speckart (1979) and Bagozzi (1981a, b, 1982) demonstrate that this assumption is not correct. These studies show a direct effect of past behavior on the future behavior. As the Fishbein model only attempts to predict and to explain intentional behavior under volitional control (reasoned acts). these findings cannot be taken as a criticism of the model. It can be argued that this direct effect represents the influence of habits. It does however weaken the position that most behavior that is important to social scientists is not influenced by habits (Fishbein and Ajzen 1975: 371). This problem of behavior being influenced by reasoning or not, is solved by some authors by including other factors in their attitude-behavior model.

Seth (1974) adds a separate habit-controlled mechanism; Van Raaij and Verhallen (1983a) distinguish situational and behavioral contingencies to explain conserving behaviors. Another variation on this 'other variable' approach is that the relation between attitude and behavior is moderated by other variables, such as 'direct experience' (Fazio and Zanna 1978) and 'vested interest' (Sivacek and Crano 1982). For a review of this 'other variable' approach, see Wicker (1971) and Falbo and Becker 1980).

In the following we will focus on the behavoiral part of the attitude-behavior relationship [1].

[1] In an earlier paper version of this article (Verhallen and Pieters 1983) a discussion of the relationship between concepts in the Ajzen and Fishbein model and its additive linear-compensatory combination rule is included.

In studies on attitude-behavior relationships the behavioral part has received almost no attention. There is some discussion on self-reports of attitudes and behavior. Nisbett and Wilson (1977) and Geller (1981) present results that raise doubt on the validity of self-reports as an instrument to investigate intra-individual antecedents of behavior. Rip (1980) and Wright and Rip (1980) do however hold a remarkably more positive opinion in this respect. In 'other-variables' studies there has been discussion on the behavioral side of the attitude-behavior relationship (Wicker 1971; Sheth 1974; Van Raaij and Verhallen 1983b).

The place and status of behavior within the theoretical framework of Fishbein and Ajzen has however not been singled out as a topic of discussion.

Starting from an analysis of the behavior concept in the Fishbein model, the necessity to incorporate a behavioral cost concept in the model is stressed.

## 3. Behavior in attitude-behavior relationships in Fishbein and Ajzen's Reasoned Action Model

Behavior is used to refer to observable acts that are studied in their own right (Fishbein and Ajzen 1975: 13). Ajzen and Fishbein (1980: 29) stress that in many studies often no distinction is made between behavior and the outcome of behavior. E.g. the amount of energy conserved by a household within a specific time period is the outcome of behavior (and other factors) and not referring to the behavior itself. Behavior is divided into single acts and behavioral categories (Ajzen and Fishbein 1980).

A single act is a specific behavior that is performed by the individual. A behavioral category is a set of actions which have at least one consequence or outcome in common, e.g., recreation behavior, dieting. Ajzen and Fishbein (1980) discuss three general criteria to study behavior: a single action criterion, a multiple choice criterion and a behavioral category criterion. A single action criterion comprises the measurement of a single act. A multiple choice criterion can be treated as a set of acts of which only one can be performed. A common example is voting on either the Republican party or the Democratic party. Behavioral categories cannot be observed directly. They have to be inferred from specific acts. It is for instance not possible to observe

recreation behavior directly. A number of acts have to be selected and combined into one general measure, an index. Such a multiple act index is a criterion for a behavioral category.

### 3.1. Behavioral elements: action, target, context and time

Ajzen and Fishbein (1977) describe the conditions for the observation of a significant relationship of attitudes and behavior. Attitudes and behavioral entities consist of four elements: (1) the action, (2) the target at which the action is directed, (3) the context in which the action is to be performed and (4) the point in time when the action is performed. The content of these elements might be either general or specific. A significant relationship between attitude and behavior could not be observed unless both the attitude and the behavioral entity correspond with regard to those four elements.

For a single act at least the action and target have correspond with the attitude. The other two elements preferably do correspond too. They are however not necessary. Some behavioral elements are diffult to distinguish.

For instance context and target or target and action elements are mentioned by Ajzen and Fishbein (1977: 911). Take for instance the attitude toward having an extensive breakfast. What is the object here? In such a case time, context and target are intertwined. In fact a fifth element is sometimes distinguished. The reference to the person himself, the actor should be taken into account. Such a reference is considered as essential in cases of attitudes toward brith control, smoking and drinking (Ajzen and Fishbein 1977: 912). Ahtola (1977) suggests that such a reference always should be made.

### 3.2. Some issues with regard to the Fishbein and Ajzen's concept of behavior

#### 3.2.1. The specification–generalization dilemma

By specifying the four behavioral elements (action, target, context and time) in order to achieve a maximum correspondence between attitudes and actions, possible disturbing factors in the attitude-behavior relationship are defined in such a specific way that the amount of overlap between the mental and the corresponding behavioral level is minimized. In this view as soon as an aspect of the context changes, the attitude may not be relevant anymore.

The generality, stability and the enduring character of the attitude concept is sacrificed to gain predictive power.

A problem associated with specifying an attitude is how to deal with the context in which the attitude-act relationship is valid. Should the context be defined in an exhaustive way, for instance according to Krupat (1977) as social, physical and temporal or according to Belk (1975) as comprising a task definition, a temporal perspective, antecedent states, a physical and a social environment, then the measurement of the attitude and the corresponding act almost becomes identical. The attitude-act relationship is reduced to a mere tautology.

A second aspect of the attitude-act specification requirements should be mentioned. If we have to measure an attitude for each of the thousands of acts (see Barker 1980) an individual performs each day, we should be endlessly repeating attitude-act studies, every time with a somewhat different act. Olshavsky (1982) criticizes such an approach of Warshaw (1980).

Thirdly, it is questionable whether such a specific act is still an object of human reasoning. For example Ehrenberg (1974) and Lastovicka and Bonfield (1982) assert the non-existence of brand attitudes in many instances.

*3.2.2. Multiple choice act*

A multiple choice act is a specific form of a single act. The different choice alternatives are presented as possible targets or actions. The main difference between a multiple choice act and a single act is that in the latter case both target and action are defined while in the first case only the action or the target is defined. The different possibilities are offered as substitutes. As it is not clear whether there are differences in the theoretical model, with regard to both kinds of acts, we consider them as mere operational differences.

*3.2.3. Behavioral category*

A behavioral category can be studied with the help of the multiple act criterion. The single acts in a behavioral category have at least one consequence in common. This common consequence, for instance dieting, is what we label as the behavioral category. It is often difficult to assess whether an act has a certain consequence. The consequence of an act might only be inferred from the context in which it occurs. Picking up a wallet is only altruistic if it belongs to someone else, and is

returned, if there was no large reward for giving it back, and if there was no strong social pressure.

To ascertain whether an act belongs to a behavioral category a number of criteria can be used. Ajzen and Fishbein (1980) remark that a sufficient level of interrater reliability should exist to determine whether an act belongs to a specific behavioral category.

What we however need is a content criterion to determine whether an act belongs to a behavioral category. Ajzen and Fishbein (1980: 32) agree that the consequence of an act has to be recognized by the individual himself. They also add that this intentionality must be present when performing that act. A person drinking coffee without sugar because he likes coffee better in that way cannot be considered to be dieting. It will be necessary to assess the individual intention instead of relying on judges before concluding that an act belongs to a specific behavioral category.

Ajzen and Fishbein (1980) combine several single acts into a multiple act index by simply counting them. This multiple act index represents the behavioral category.

Some questions can be raised with regard to the multiple act index.

(a) Counting single acts implies that all acts are considered to be equally important. To take the example of dieting: Does it make sense to add the act 'skipping lunch' to acts such as 'not taking sugar in coffee or tea'?

$$B = \sum_{j=1}^{n} (\text{act}_j \times \text{weight}_j) \tag{4}$$

The formula (4) closely resembles the evaluation × belief formula for attitudes. The weights in formula (4) are commonly set equal to one. In discussions with regard to the behavioral category criterion, the same issues may be raised as with regard to the additive linear-compensatory character of the Fishbein model.

In our opinion the acts have to be weighted with either an intra-individual criterion or an extra-individual criterion. An intra-individual criterion might be e.g. perceived importance of the act of the effort needed in performing. As an extra-individual criterion for dieting the amount of calories saved could be taken.

(b) By simply adding acts, uni-dimensionality is implied. It is assumed

that acts do not covary. Especially in cases like dieting specific patterns of behavior do occur. The different acts within a diet will strongly covary. Since people normally behave in a coherent, pattern-like way, we should focus on trying to explain these patterns of behavior (Van Raaij and Verhallen 1983b).

## 4. Toward a behavioral field approach

From the foregoing discussion of behavior in the context of attitude-behavior relationships two related problems emerge. The specification–generalization dilemma with regard to the prediction of acts and the wish to find more enduring and longer lasting relations, point in the direction of studying larger behavioral entities. In studies on personality, concepts at an intermediate level of abstraction are considered to be most parsimonious (Mishell 1979). Among others Olson (1982) and Verhallen and De Nooij (1982) advocate a more holistic approach in the study of consumer behavior.

In studies on attitudes the broadening of the scope of the behavior measure is also advocated. Weigel and Newman (1976) find the attitude-behavior correspondence to be higher for broader behavior measures than for specific acts. However Monson et al.'s (1982) study suggests that it would be premature to abandon the attempt to predict single acts. It has also been argued that the study of attitudes should encompass both specific as well as general measures. 'Both specific and general attitudes ought to be included in a study to predict behavior, and the entire causal model from general attitudes to specific attitudes to behavior ought to be charged' (Heberlein and Black 1976; 479).

In the behavioral model of Van Raaij and Verhallen both specific and general attitudes are represented. Justifying this inclusion they mention (Van Raaij and Verhallen 1983a: 52): 'general attitudes may provide a general context shaping more specific and critical factors'. In the following we will discuss the type of behavior entity that corresponds with a broader attitude measure. We start from Ajzen and Fishbein's concept of a behavior category but introduce a new concept 'behavioral field' which leads to a distinction of different kinds of acts. It will further be argued that the distinction between these types of acts leads to the inclusion of a behavioral cost concept in attitude research. The relevance of this behavioral cost concept is further discussed.

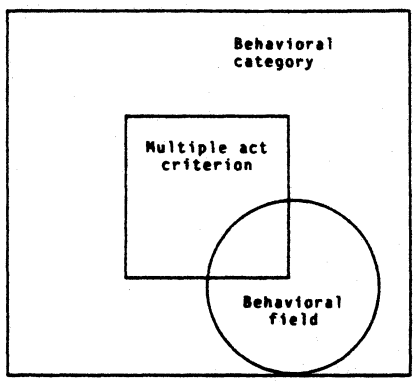


Fig. 2. Behavioral category versus behavioral field.

Finally the implications for a attitude research in general, and more specific consequences for the Fishbein and Ajzen model are elaborated.

### *4.1. Behavioral category versus behavioral field*

Ajzen and Fishbein (1980) do not make an attempt to define a behavioral category. By way of the multiple-act criterion a number of acts are counted. Which are considered by judges to belong to the same category. The examples given, e.g., dieting, imply that the selected acts share a common goal or valued state. Whether individuals strive toward the particular goal or valued state and whether that is the reason why they act as they do, can only be stated by the individuals themselves. 'Drinking coffee without sugar' may be a goal in itself, desirable for the individual: 'the best taste of coffee'. However it might as well be an act directed at the goal 'dieting'. We will therefore define a behavioral field as: 'the total of acts that are perceived by the acting individual as leading to a common goal or valued state' [2]. The difference between a behavioral category and a behavioral field is depicted in fig. 2.

A behavioral category, as mentioned by Ajzen and Fishbein (1980), is the total of acts that have a common label or that are related to a

[2] This definition of a behavioral field resembles the conception of an "evoked set". Two additional specification elements have to be taken into account when comparing an evoked set with a behavioral field. That is a behavioral field can be defined as an evoked set of behavioral alternatives with comparable goal valences.

common goal or valued end state. The multiple-act criterion is then defined as the subset of acts that is considered, with a certain level of interrater reliability, to represent the behavioral category.

A behavioral field is that subset of acts within the behavioral category which is defined by the acting individual as leading to the same goal. What is the relevance of this distinction? As we assume that a behavioral category *as defined by the individual* will be guiding his or her behavior, several other factors now become relevant: the knowledge of actions that lead to this goal will determine which acts will be performed by the individual. De Jonge and Oppedijk van Veen (1982) speak of cognitive events as intervening between behavioral intentions and actual behavior to include 'change of mind' or forgetting. The occurrence of these cognititve events will be a function of the knowledge [3] of which act belong to the behavioral category. The more complete the knowledge, the less likely the occurrence of such cognitive events will be, as there will be less room for surprises.

Furthermore it is possible that the individual is valuing a certain state (e.g. energy being conserved) and not acting as outside judges would expect. If the valued state is located outside the individual, as with energy conservation, a person may follow an indirect way, for instance, if the individual is not saving energy himself in order to force others, e.g. the government, to act. So the valued state will be attained by not performing energy conservation acts.

When having to predict the occurrence of an act within a behavioral category, when comparing with a single act, it is relevant whether the person is aware that the act under study leads to the goal or valued state that governs the behavioral field. When comparing behavioral categories with a goal directed as a state outside the individual, such as 'energy conservation', with behavioral categories with a goal directed at a state inside the individual, such as 'dieting', it is relevant whether the person accepts the responsibility to perform certain acts in this behavioral field.

The acceptance of responsibility might be of importance in studying, e.g. helping behavior (Schwartz 1977) or ecological behavior (Van Raaij and Verhallen 1983a). A behavioral field approach in studying attitude-behavior relationships may explain the relevance of factors

[3] Knowledge is here to be defined as the sum of relational descriptive beliefs (Fishbein 1967).

such as 'past of personal experience' (Bentler and Speckart 1979; Scott 1981; Borgida and Campbell 1982) and 'locus of control' (Zanna et al. 1980). It also brings forward the question whether acts as single acts are identical to acts within a behavioral category.

*4.2. Goal acts versus instrumental acts*

In the discussion of the behavior concept of Ajzen and Fishbein (1980), no reference is made toward a distinction of kinds of acts. The differences discussed are only differences in formats. In animal psychology a distinction is made between consummatory responses and instrumental responses (Premack 1971). For reasoned action a similar distinction in goal acts and instrumental acts can be made. This distinction has been made in a preliminary way by Thibaut and Kelley (1959: 11).

Goal acts are then to be defined as 'acts which by performing lead to a state of the organism which is desirable for the actor and which makes that the goal ceases to exist'. Pure consumption is such a goal act. Instrumental acts are 'acts that are performed in order to reach a goal, which in itself remains after the performance of this act'. It is obvious that the two types of acts are ideal types. 'Pure' goal acts or instrumental acts will be quite rare. Many acts will be directed at subgoals and contain varying degrees of both goal and instrumental elements. The dominance of goal and instrumental aspects is relevant. Whether an act is predominantly a goal act or predominantly an instrumental act is to be defined by the individual himself. Drinking coffee without sugar may be a goal in itself, desirable for the individual. It might also be an instrumental act if the person is doing so for dieting reasons. Single acts, according to Ajzen and Fishbein (1980), can be either goal acts or instrumental acts. For an instrumental act there are by definition other possible acts that lead to the same behavioral goal. Especially in choice situations, e.g. between brands, such a situation occurs.

*4.3 Substitutability of acts*

The stability of the relationship between the attitude and the specific act will be influenced by the possibility to perform similar acts (Laroche and Brisoux 1981). Substitutability refers to the degree an act can be replaced by other acts with similar outcomes.

If the substitutability of an act is large, then there are many acts all possibly leading to the same valued state. The change that a 'cognitive event' occurs, is then larger and hence the robustness of the prediction will be lower. For instrumental acts substitutability refers to the possibility to perform other acts that lead to the same goal. This is referred to by Abelson (1978) as equifinality. For goal acts substitutability refers to their goal gradient. The more similar acts are with respect to a common goal, the better substitutes they are. For goal acts the evaluation of outcome states will be of importance, i.e., if and to what extent a goal is achieved and whether other goals are in conflict at the same time. For instrumental acts the costs of performing an act, the behavioral costs, in relation to the valued outcomes are relevant.

The same act can be both a goal act and an instrumental act, e.g. drinking coffee without sugar. The relevance of behavioral costs for the performance of an act will thus depend on the individual's intention. In the following sections this point will be elaborated.

## 5. Behavioral costs

From an economic standpoint criticism has been formulated on the attitude behavior debate.

As measurement of attitudes doesn't seem to cath the relevant (non-zero) opportunity costs of an action, it cannot be used as a reliable predictor of behavior (Meyer 1982: 88).

Two elements form the basis of this criticism:

(1) In order to behave an individual has to make use of his behavioral resources (sacrifice);
(2) For each act there is a comparable act which produces similar outcomes (as advocated in the previous section this is relevant for instrumental acts) (opportunity costs).

The choice of an act to reach the goal that governs the behavioral field will thus be a function of the expected relative outcomes and the relative costs of acts. The beliefs times evaluation model expresses the expected outcomes of an act. There may be considerable differences between alternative acts with respect to the costs the individual has to

incur to perform the act in a certain context. In a buying situation these costs are primarily of a financial nature, the price to be paid. In choosing between different actions the costs to perform an act, the behavioral costs, will be traded off against the expected outcomes. Such a translation of economic concepts to psychological phenomena is becoming normal practice when explaining the effects of reinforcement schedules in animal psychology (Lea 1978, 1981; Rachlin et al. 1976; Rachlin et al. 1980). However for human behavior a psychological conceptualization of traditional economic concepts such as scarcity and costs is rarely discussed (Brock 1968; Verhallen 1982a). Only in the social exchange theory (Homans 1958, 1961) an attempt has been made to apply economic principles to explain social behavior. It is argued that although it seems difficult to apply the economic principles of maximizing utilities to social exchange as social benefits have no exact price, it is worthwhile to do so (Homans 1961: 72). In the traditional economic theory of consumer demand as stated by Slutzky and Hicks (Hicks 1959), a confrontation of financial means, that is price and budged on the one hand and the preference for goods on the other hand, leads to the optimal choice. In some modern economic theories, time has been added as a scarce resource (Becker 1976). That is in choosing between goods the individual has to take both the price and the time needed into account. We may expand this view into: in order to perform an act an individual has to make use of the totality of his behavioral resources at hand: his physical and psychic energy, spendind time and possible money (Verhallen 1982b).

We may distinguish three types of behavioral costs: time costs, psychic costs and physical costs.

A cost figure is always relative: it refers to the amount needed for a specific act (e.g. price for a product) in relation to the amount allocated for a specific behavioral field (e.g. money budget). We may define behavioral costs ($BC$) as in formula (5):

$$BC = \sum (TC, PsC, PhC), \tag{5}$$

in which

$CC$ = Time Costs = Time needed /Time budget
$PsC$ = Psychic Costs = Psychic demand /Mental budget
$PhC$ = Physical Costs = Physical demand/Physical budget.

'Time needed' refers to the expected time needed to perform the act

under study. The psychic and/or physical demand express the perceived task requirements. Psychic costs include opportunity costs, the costs not to behave otherwise. Note, that psychic costs (Shugan 1980) and physical costs, psychic and physical effort, are relative. This latter characteristic has not been emphasized in other conceptions (Wofford 1982). When having to choose between different acts within a behavioral field the budget available is constant, hence neutral for the alternative acts. The preferred act will be the one which contributes the most to the goal governing the behavioral field, relative to the behavioral costs involved. We may formally express this as:

$$Pa1 - Pa2 = w_1(Oa1 - Oa2) - w_2(BCa1 - BCa2), \tag{6}$$

in which
$Pa1 - Pa2$ = the relative preference of act 1 to act 2,
$Oa1, 2$ = the outcome evaluation resulting from act 1,2,
$BCa1, 2$ = the behavioral costs to be made for act 1,2,
$w_1, w_2$ = weights.

So the act will be selected for which the weighted difference between outcomes and costs is most positive. The process by which costs and benefits are perceived and compared between alternative acts in case more than two acts are feasible will need further exploration. Several issues will require research attention.

(1) The perception of task demands as types of costs will be influenced by distortive mechanisms. It is well known that the marginal utility of marginal costs of increasing amounts eventually diminishes. Individual differences will be of influence on the perception of costs and outcomes and will be reflected in the weights given to differences in outcomes and costs.
(2) The choice rule to be used by an individual may well be not an additive linear one, other might be more realistic (Hagarty 1980). Research on information processing shows that depending on a variety of factors such as time pressure, number of choice alternatives, formats, differences between alternatives etc. different decision rules are used. (see e.g., Tversky 1969; Wright 1974, 1975; Bettman 1979; Wahlers 1982; Van Raaij 1983a).

It will in many instances not be necessary to measure costs and

outcomes directly to ascertain whether they have an influence. We may simply infer them from differences in choosen acts, similar to the application of revealed preferences in micro-economics. If all potential acts have negative results (e.g. a higher cost than outcome figure) the individual will not act, unless the preference for not acting is even lower (Kukla 1982).

### *5.1. Energization, behavioral budget and behavioral stock*

The question may arise, 'why not include individual social costs in a behavioral cost figure'? Individual social costs might be expressed as a social price divided by a social budget. Apart from the difficulty of defining 'social price' in operational terms (Blau 1964: 94–95) the definition of a social budget calls our attention. Suppose, you ask a friend to do something for you inorder to reach a personal goal. This, in other words, means that you ask for the behavioral and/or financial means of someone else to reach your goal. This exemplifies that individuals may use a 'stock' of behavioral resources outside oneselves. A 'behavioral stock' may be defined as 'the total of psychic and physial capacities an individual has at this disposal'. So an individual has the disposal of a financial, a behavioral and a social stock.

A social stock refers to the individual's position in society, one's place in social networks. Materially it consists of the total available social help, advise and information. A second, normative, component of social stock refers to the social control that can be excerted on the individual. As both the financial and social stocks are located outside the individual, they are not considered to be of direct influence on behavioral costs. From their total stock individuals may energize a part, their behavioral budget. This behavioral budget expresses the magnitude of the goal valence of the behavioral field. The behavioral cost formula presented earlier may be rewritten, for convenience, as:

$$BC = \sum \left( \frac{T}{TB}, \frac{Ps}{PsB}, \frac{Ph}{PhB} \right) = \frac{\text{behavioral price}}{\text{behavioral budget}} \qquad (7)$$

Premack's (1971) 'theory on instrumental responses', states that the value of a consummatory response (a goal) is to be expressed as the total amount of instrumental responses. From this we may expect the total budget for a behavioral category to depend on the goal impor-

tance of this behavioral category for the individual (Cardozo 1965).

Brehm et al. (1983) demonstrate the energization of behavioral means to depend on the attractiveness of a goal. The more important a goal, the more budget will be allocated to this goal and the less the costs of a specific act to reach this goal will be.

The relationship of product involvement with consumer effort (Clarke and Belk 1979) may be considered to be a specific form of the relationship of goal importance and behavioral budget. Verhallen and De Nooij (1982) demonstrated in a shopping behavior study, the mix of the behavioral budget elements to depend on differences in personal characteristics. A price-sensitive consumer, in their terminology, is often a person with a low money budget. And a time-sensitive individual was often found to be a housewife with young children.

We expect that the time budget for shopping for this type of housewife is relatively low. The goal importance of daily shopping is expected to be lower for the group of housewives with young children than for a comparable group of housewives without young children. Verhallen and De Nooij (1982) found that persons with different personal characteristics attach a different mix of behavioral budget elements, referred to as sensitivity patterns, to a behavioral category. The measurement procedure, a conjoint analysis approach, could be useful in exploring the behavioral budget mix for other behavioral areas. The nominator of the cost formula referring to the behavioral price as perceived by the individual, will depend on the different instrumental acts available in the behavioral field. This means that when predicting instrumental acts the *perceived* behavioral price will be especially important. These behavioral prices will thus be subject to changes due to context and situational alternations.

The ratio of a cost category, for instance, price/financial budget, will be of relevance for explanations and predictions of behavior. Thaler (1980) departing from Kahneman and Tversky's prospect theory, stresses the importance of the ratio of a price difference. So a price difference of say 5 dollars has different meanings for a budget of 10 dollars, for a small expenditure, than for a large financial budget, a large expenditure, It is implied here, that for other cost categories similar findings are to be expected [4].

[4] Note the analogy with the Weber-Fechner law of just noticeable differences.

*5.2. Behavioral costs: some further aspects*

In formula (6) the relative benefits are computed separately from the relative behavioral costs to determine the relative preferences for acts within a behavioral field. This implies that costs and benefits do not necessarily add up as is assumed in expectancy-value models. They may be traded off or perhaps treated in a non-compensatory way. There are several arguments that support such a separate treatment of costs and benefits.

*5.2.1. Individual versus societal consequences*

For many acts consequences both for the individual as well as for the society as a whole can be identified.

Review studies on energy behavior (Winett and Neale 1979; Van Raaij and Verhallen 1983a) show that attitudes have frequently been emmployed in explaining and predicting energy behavior. Factor analyses on attitude items as performed in many studies generally show two types of factors: (1) Factors revealing energy or ecology concern or energy related problem recognition, and (2) Factors referring to personal costs and benefits of energy saving (see e.g., Hass et al. 1975; Seligman et al. 1978; Leonard-Barton and Rogers 1979; Verhallen and Van Raaij 1981; Midden and Ritsema 1983).

These structural analyses on (attitudinal) belief statements reveal that the perceived consequences of behavior cluster together, thus are interdependent. Some beliefs are clustered around societal consequences and related to reaching a certain goal e.g., longer lasting energy resources. Other beliefs are connected to certain personal consequences, e.g., monetary gain, loss of comfort or are related to the usage of certain instruments, e.g. spending time, money or effort, to reach these goals, by actually saving energy. This distinction between goal and instrumental beliefs reflects a means-end distinction which can be made in the functions of attitudes (Katz 1960; Lutz 1981). In this example part of the positive consequences, benefits are collective and located outside the individual. The costs, mostly behavioral costs, are for the individual.

This distinction between individual costs and societal benefits makes it possible and desirable to use them as separately studied predictors of ecological behavior. Adding both factors leads to obscuring the differential weights individuals may attach to individual costs and societal

benefits. A score resulting from the summated belief × evaluations may not reflect different costs–benefits structures and hence different attitudinal change possibilities.

*5.2.2. Time dimension*

Thaler (1980: 56) makes a distinction between positive and negative investment goods. A positive investment good is a good whose benefits accrue later than their costs, such as education. A negative investment good has an opposite time structure. In this terminology energy conservation is a positive investment good. We might hypothesize that the consistency of attitude-behavior relationships depends for a large part on the time structure of costs and benefits.

Two time structure elements are relevant: the time *order* of costs and benefits and the *proximity* in time of future behavior.

*Time order*. People may be 'trapped' (Platt 1973) into performing behavior with positive consequences coming first or reversely avoid behavior that has behavioral costs coming first.

For example, Bronner (1982) reports that people travel by car although their attitude toward travelling by train is more positive. Several explanations can be suggested for this finding: (a) The costs for car trips are not as easily assessed as for trips by train. Some behavioral costs may not have been covered in studies on travelling-mode choice. (b) It might also be argued that behavioral costs for taking the train, such as looking for the time table, planning ahead, changing vehicles, etc. are coming first. Travelling by car is simply easier to start with.

*Time proximity* Attitudes toward behavior that is far away in time may be dominated by an 'approach-tendency', i.e., the tendency to strive to certain goals with specific positive outcomes or benefits. When the time for behavioral performance is coming nearer the 'avoidance-tendency', the costs, might become more relevant. This analogy with 'approach-avoidance' conflict situations might be useful in forming hypotheses on the relative importance, over time, of future costs and benefits as related to specific behavior.

*5.2.3. Costs and benefits in a prospect-theoretical perspective*

The prospect thoery of Kahneman and Tversky (1979) originates from game-theoretical research. There it is consistently found that

losses are weighted more heavily than gains. This differential weighting might, according to Thaler (1980), be extended to costs and benefits. The problem of what a person perceives as costs and benefits does not yet seem to be resolved (Yates and Aronson 1983). However we may hypothesize in similar vein that costs and outcomes, as referred to in formulas (5) and (6), are weighted differently. In the foregoing some dimensions were shortly introduced, in which consequences of behavior can be projected: individuals vs. societal; time order and the time proximity of costs and benefits. An approach disentangling behavioral consequences along these dimensions will improve the explanation and prediction of behavior.

## 6. Discussion

### *6.1. Some implications*

From an analysis of the behavior concept in Ajzen and Fishbein's theory of reasoned action a distinction is made between goal and instrumental aspects of behavior. It is further argued that these goal and instrumental aspects stem from a person's general behavioral intention. This implies that a consequence of behavior such as 'being tired' will be evaluated as positive or negative (cost or benefit) depending on the act. As a consequence of 'running to catch a train' it will generally be evaluated more negatively than as a consequence of 'jogging'. A typical evaluation statement from Ajzen and Fishbein's theory such as:

being tired is:

| +3 | +2 | +1 | 0 | −1 | −2 | −3 |
|---|---|---|---|---|---|---|
| very good | | | | | | very bad |

should be made act specific:

being tired after jogging is:

| +3 | +2 | +1 | 0 | −1 | −2 | −3 |
|---|---|---|---|---|---|---|
| very good | | | | | | very bad |

A similar suggestion has been by Ahtola (1977) with respect to 'motivation to comply'.

As positive and negative outcomes will be weighted differently, as

discussed earlier, costs and positive outcomes should be treated separately.

A more general implication from the analysis here refers to the relationship between concepts in the Ajzen and Fishbein model. The assumption that affect is determined by the summated beliefs, cognitions, is brought into another perspective. Recently, the assumption that affect follows cognition, as implied in the Fishbein model, is seriously doubted (Zajonc 1980; Zajonc and Markus 1982; Wright 1981; Bettman 1981; Kroeber-Riel 1983). Van Raaij (1983b) argues that a primary, general affect is followed by cognitive elaborations which leads to a secondary, revised affect.

Research on halo effects show that a general attitude toward a certain behavior has an influence on the beliefs and the evaluations associated with those beliefs (Johansson et al. 1976; Beckwith and Lehmann 1976; Laroche 1978). The introduction of the behavioral field concept implies a goal setting reflecting a general affect or attitude toward performing behavior within a behavioral category.

The performance of specific acts is dominated by cost-outcome considerations which in our analysis do not need to include attitudes or affects nor need a linear compensatory decision rule. This is in line with the findings of e.g. Lastovicka and Bonfield (1982) 'Do consumers have brand attitudes?'. In our analysis they do not need to develop affects in an instrumental situation for (highly) substitutable choice alternatives. The choice will be determined by cost aspects, price and convenience. Foxall (1984) holds a similar position. He advocates, for consumer choice settings, the replacement of an attitude, as a supposed inner latent process, by the adoption of a research pardigm in which situational factors, especially the contingencies of reinforcement which inhere in them, can be studied.

The approach advocated here stresses the importance of studying acts from a broader perspective. By starting from behavioral fields in contrast to starting from acts. 'other' variables such as 'knowledge' and 'acceptance of responsibility' find a more natural place. Next to the aforementioned, other variables such as 'vested interest' (Sivacek and Crano 1982) can be incorporated. This latter concept refers to the behavioral cost component. 'Vested interest' might be considered to be a 'proxy' for the 'behavioral budget' allocated to a behavioral field. A more parsimonious conceptualization of attitude-behavior relationships might be attained.

*6.2. General discussion*

In this article an attempt is made to express the economic cost concept in behavioral terms. The relevance of a behavioral cost concept for attitude-behavior theorizing has been discussed. Elaborating this behavioral cost approach might shed new light on the person by situation debate. We might hold that situational changes can be reflected in financial, behavioral and social prices, while personal goals and values can be reflected in the behavioral budgets allocated to specific behavioral fields. Behavioral budget mixes of different individuals may reflect their personal capacities and interests in different behavioral fields.

The question can be raised whether the term social stock relates to the 'motivation to comply' concept from Ajzen and Fishbein. It might be hypothesized that persons with a large social stock have more freedom to deviate from social norms. The problem related to this topic is how to operationalize the concepts introduced here. Verhallen and De Nooij (1982) follow a conjoint analysis procedure to capture the essence of retail mix sensitivity, that may be considered as a behavioral budget mix for a specific behavioral category, daily shopping. This does not exclude that other measurement procedures can be used.

Goal importance or the attractiveness of the valued state is said to determine the behavioral budget.

The more important the goal, the larger the behavioral budget allocated to this goal. On the other hand, Brehm et al. (1983) argue that the more difficult an outcome is to attain, the more it is perceived as attractive. Brock's commodity theory (Brock 1968) might also be said to specify the cost-value hypothesis in this order. In the price-quality research tradition, starting with Scitovsky (1945), price is found to indicate quality (see e.g., Gabor and Granger 1966; Taylor and Wills 1970). The relation of costs and value, whether they are financial and/or behavioral, is so entangled that the order of causation may depend to a large extent on the task definition in the behavioral setting under study.

In some situations all cues related to intrinsic and/or extrinsic behavioral costs will be used by the individual to infer the relative value of alternatives e.g. in brand choice situations. In other situations, personal goals will determine the amount of budget and individual will allocate. This 'causal order' discussion resembles the revived discussion on the order of affects and cognitions (Zajonc 1980; Zajonc and Markus 1982; Van Raaij 1983b.)

After the above discussion we feel that it is premature to abandon Ajzen and Fishbein's reasoned action model as some argue (Sarver 1983). Attitude theory can be enriched by including concepts that reflect the limitations put by individual resources (Meyer 1982). A behavioral cost concept has that potential.

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